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16. ABSTRACT

This Discussion paper comments on an arti[illegible]icle dealing with perceptions of urban runoff water quality models.

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Urban Runoff Quality: Information Needs[1]

Discussion by Richard Field[2]

The author is to be congratulated for expressing his opinions about a much needed subject, urban stormwater runoff quality information needs. He is absolutely correct by his implication that more needs to be done in the subject area. However, it is important to make some additional comments regarding some of the author's statements or implications.

The author suggests that a lot more effort has to be attached to the scientific phenomena behind urban runoff quality routing. This is a philosophical point that cannot be argued in terms of truths or benefits to science, although it can be discussed in terms of technological benefits from an engineering viewpoint. It would be impossible to get a totally scientifically based deterministic quality or routing model at a microscopic scale for the complex, i.e., (highly variable, spatially, and temporally), urban catchment for the following reasons:

1. There are limits to resources in all societies.
2. The data requirements approach the impossible.
3. Theoretically, all models become the nondeterministic "black box" at some point in the breakdown. The key is, at what point should this occur?
4. The model needs when we set limits to get a level of accuracy and there are the issues when we ask for a great level of accuracy.
5. It must be recognized that the input driving force to urban runoff quality transport models is the rainfall and dust and dirt accumulation phenomena, which is of a probabilistic and stochastic nature and, therefore, offers its own sense of uncertainty, which must be integrated with all levels of deterministic physical routing models for compatibility. This makes all quality routing routines statistically dependent.
6. Because of the aforementioned rationale, a certain degree of statistics and lumping or black boxing is necessary, along with on-site correlations (or observations).

The discusser offers his comments with sincere hope that the reader or modelers be able to balance viewpoints for an optimal solution.

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[1] August, 1980, by Michael B. Sonnen (Proc. Paper 15611).
[2] Chf., Storm and Combined Sewer Section, Municipal Environmental Research Lab., U.S. Environmental Protection Agency, Edison, N.J. 08837.

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